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BRABY STEEL STRUCTURES



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: BRABY, GLASGOW, :

FOR

STRUCTURAL STEELWORK

—OF EVERY DESCRIPTION—

INTRODUCTORY.

In submitting this Booklet we have endeavoured to set before our clients photographs of a few representative examples of the most general types of Structural Steelwork.

We cannot attempt to illustrate in these pages the infinite variety of Buildings, Bridges and Structures which can be produced, but we are prepared to submit designs and estimates for the construction and erection of Buildings, Bridges, Tanks, Roofs, Godowns, Workshops, Mills, Gantrys, Aeroplane Hangars and Sheds of every description, or to quote to Engineers' or Architects' designs.

High Grade Steel is used throughout, and first-class design, workmanship and finish are guaranteed.

“Standard-Unit” Construction System.

The latter pages of this Booklet illustrate our UNIT SYSTEM of Construction. In this system standard triangular units and standard connecting bars are employed. These units are capable of being combined by means of pin joints to form any required span and cross section.

The units are kept in stock in different weights to suit variations of stress, and can therefore be delivered in a minimum of time. Economy of time is also secured in erection, and any building made on this principle can be taken down and re-erected as often as required.

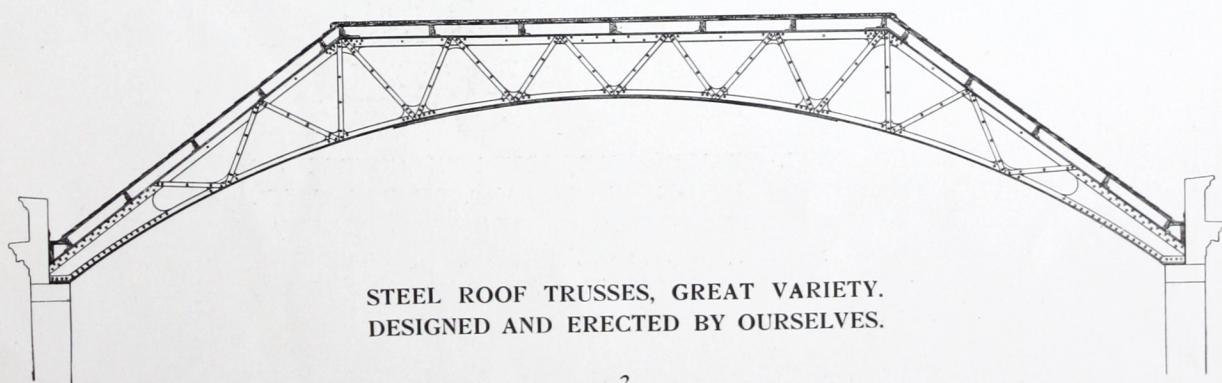
The system is eminently suited for small buildings, sheds, aeroplane hangars, etc., especially where only a temporary structure is required, though if necessary these structures will last as long as those built on the ordinary principle with permanent connections.



BRABY STEEL STRUCTURES

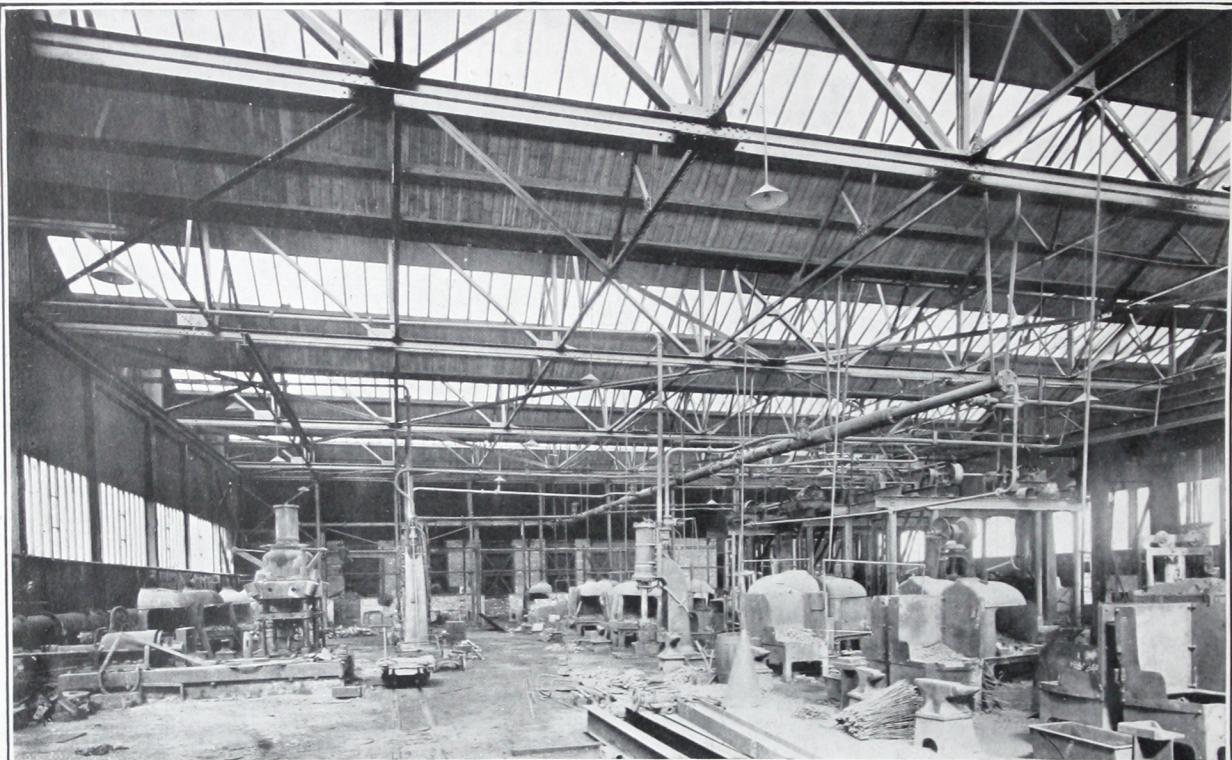


VIEWS OF BRABY'S STEEL STRUCTURAL SHOPS.



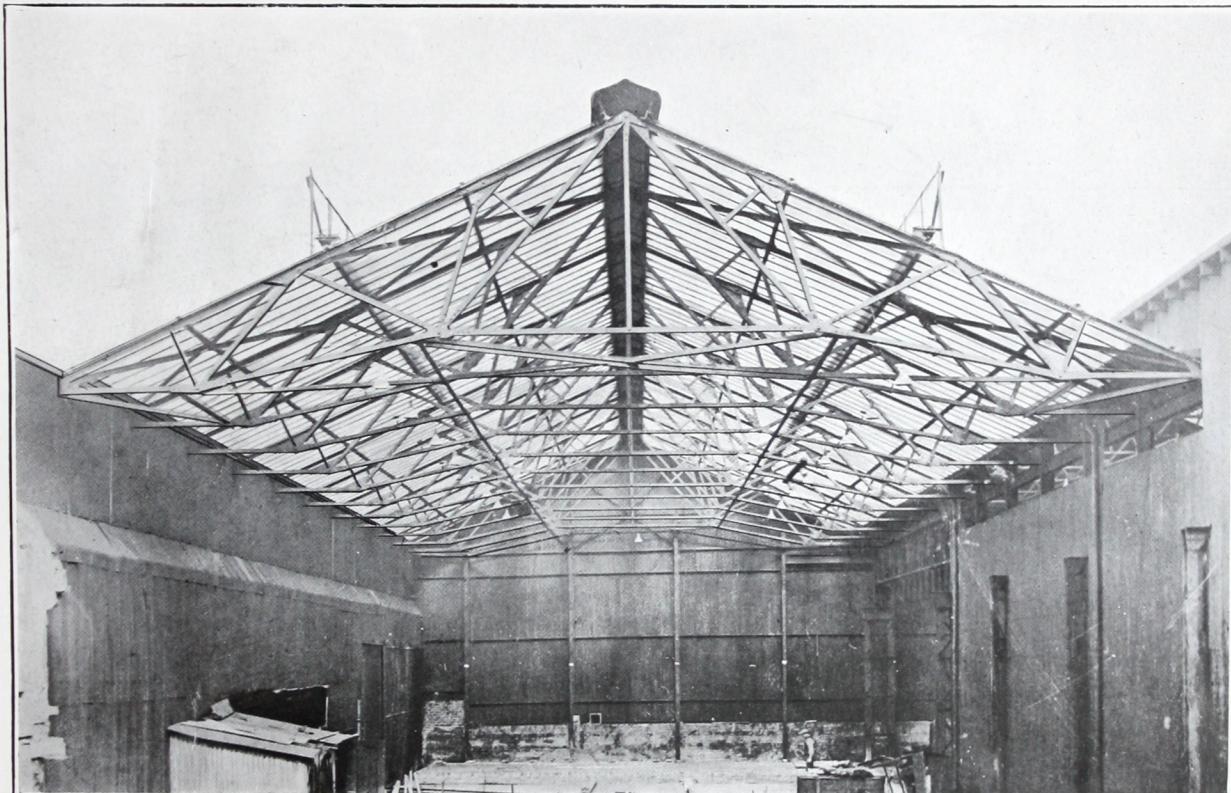
STEEL ROOF TRUSSES, GREAT VARIETY.
DESIGNED AND ERECTED BY OURSELVES.

BRABY : GLASGOW



LARGE HEAVY FORGE BUILDING, DESIGNED AND ERECTED BY US. THE RE-CONSTRUCTION WAS CARRIED OUT WITHOUT INTERFERING WITH MANUFACTURING OPERATIONS IN THE ORIGINAL BUILDINGS WHICH WERE DEMOLISHED IN SECTIONS.

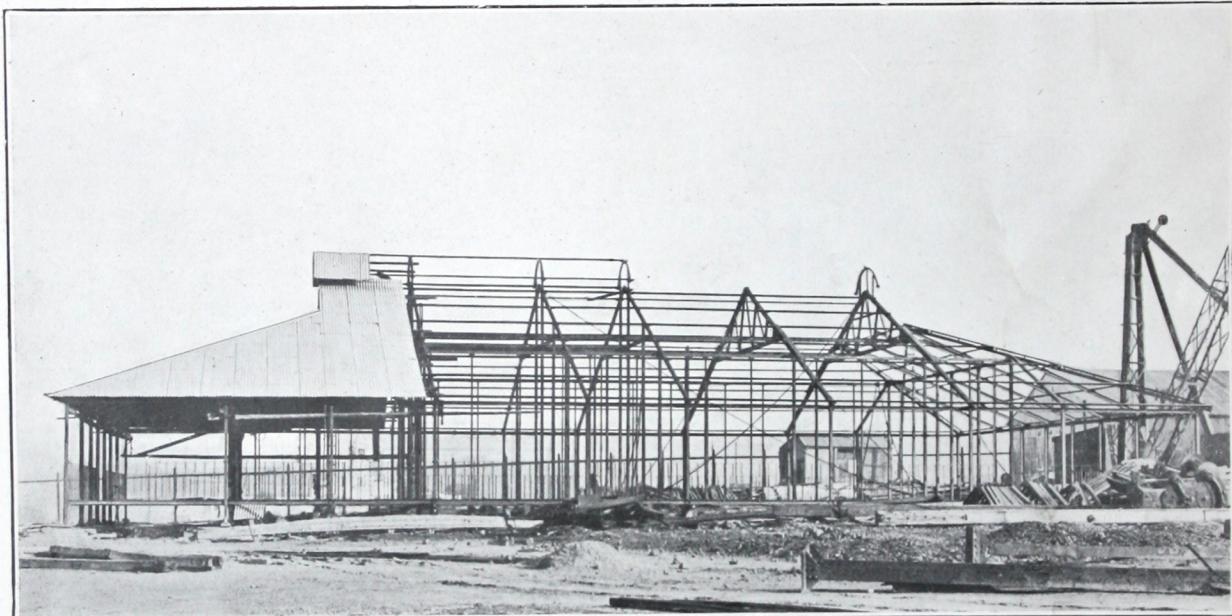
STRUCTURAL STEELWORK



LARGE STEEL FACTORY ROOF ON OUR UNIT PRINCIPLE,
53 FT. 6 IN. SPAN, IN COURSE OF ERECTION BY US.
ROOF COVERED WITH GLASS.

For further particulars of our "Unit" System, see pages 28 to 35.

BRABY : GLASGOW



STEEL BUNGALOW PARTLY ERECTED IN OUR YARD
FOR INSPECTION PREVIOUS TO SHIPMENT ABROAD.

STRUCTURAL STEELWORK

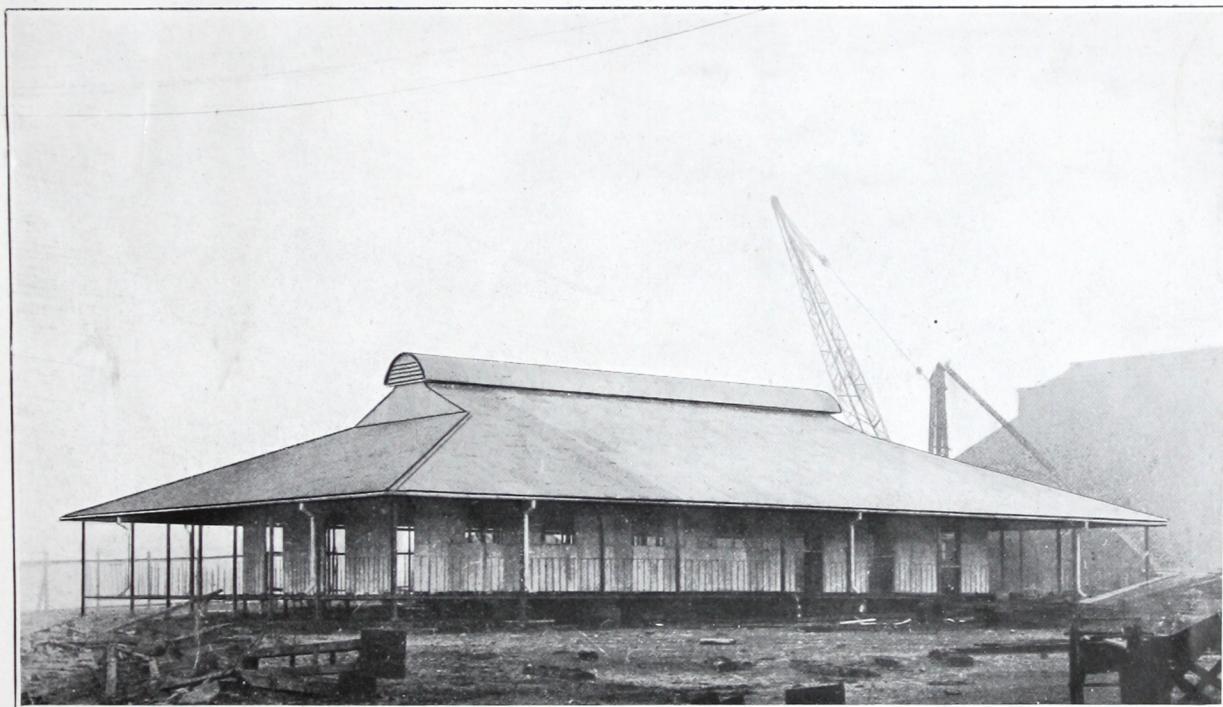
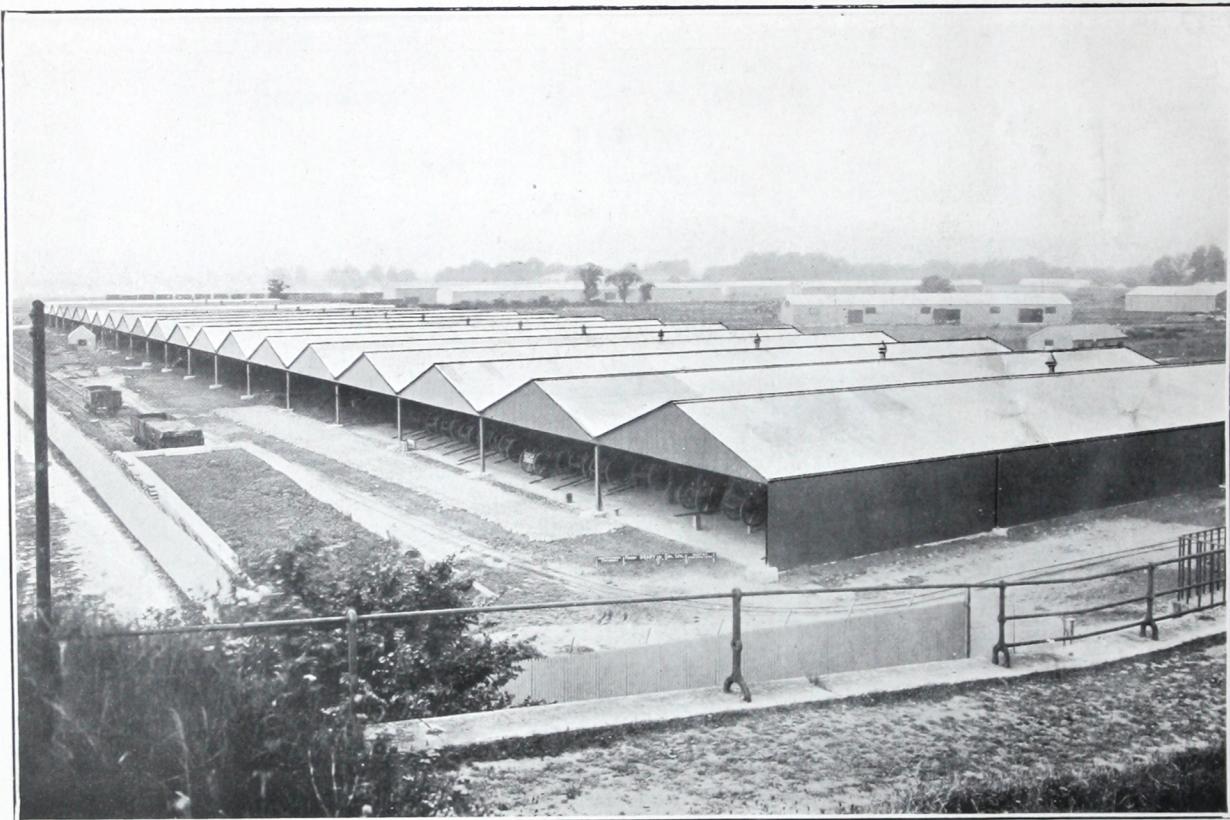


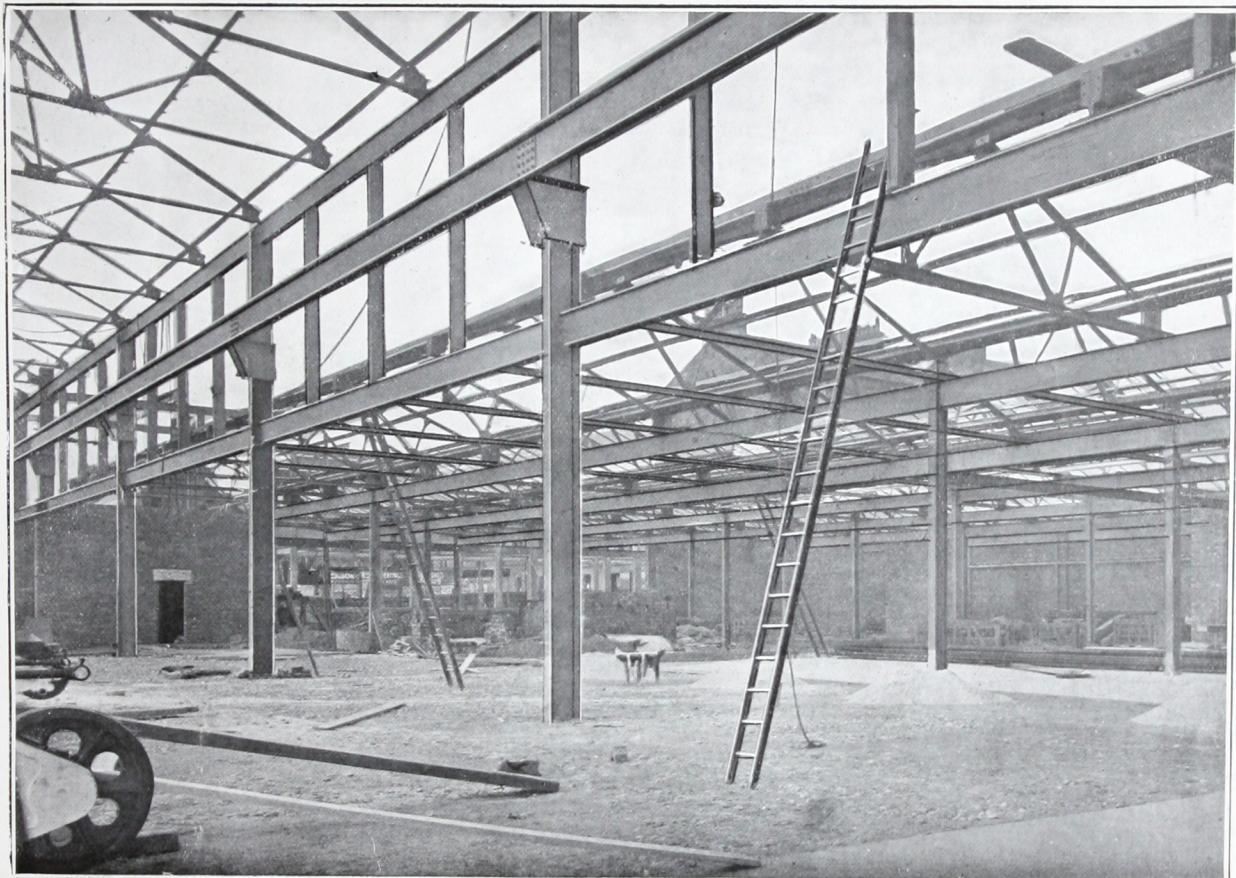
ILLUSTRATION OF STEEL BUNGALOW COMPLETELY ERECTED
IN OUR YARD PREVIOUS TO SHIPMENT ABROAD.

BRABY : GLASGOW



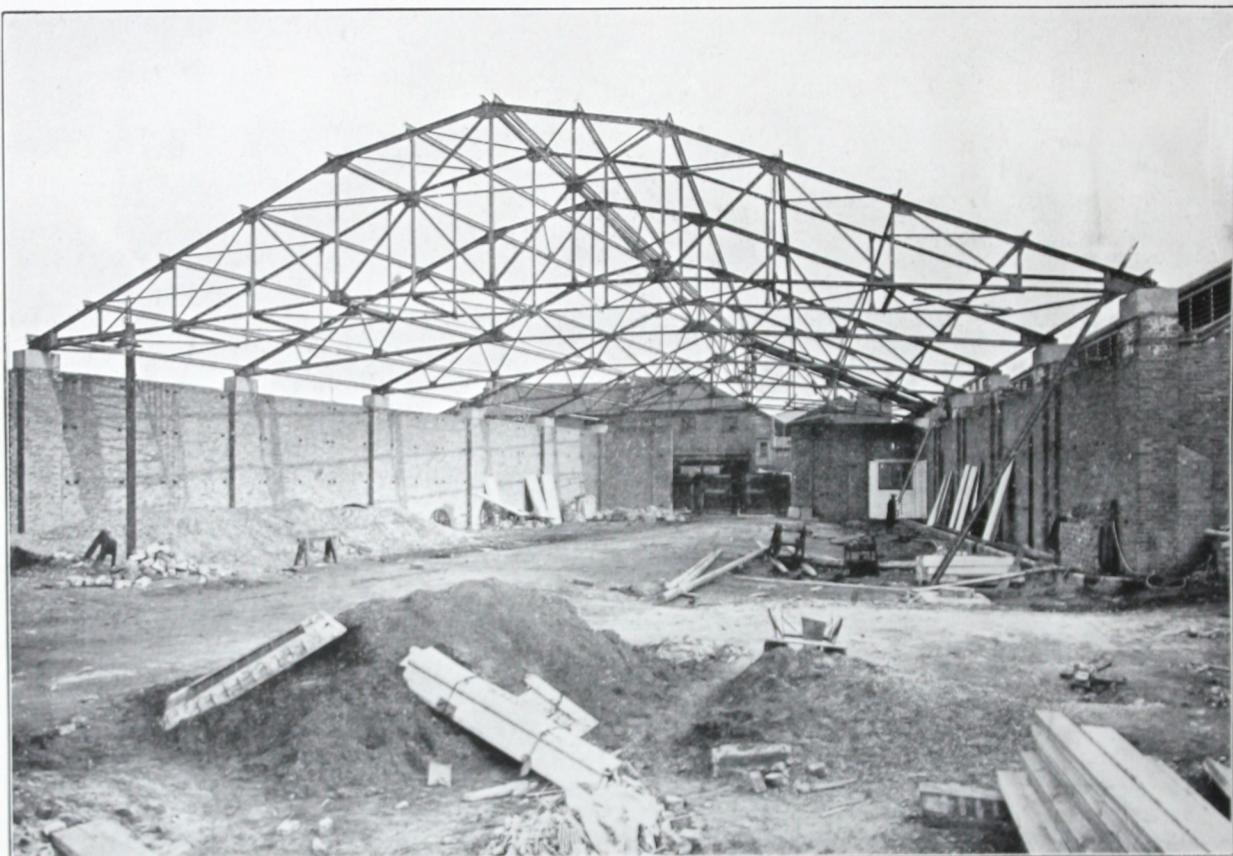
STEEL VEHICLE SHED, CONSISTING OF 20 SPANS COVERING
AN AREA OF 130,000 SQUARE FEET, ERECTED BY US.

STRUCTURAL STEELWORK



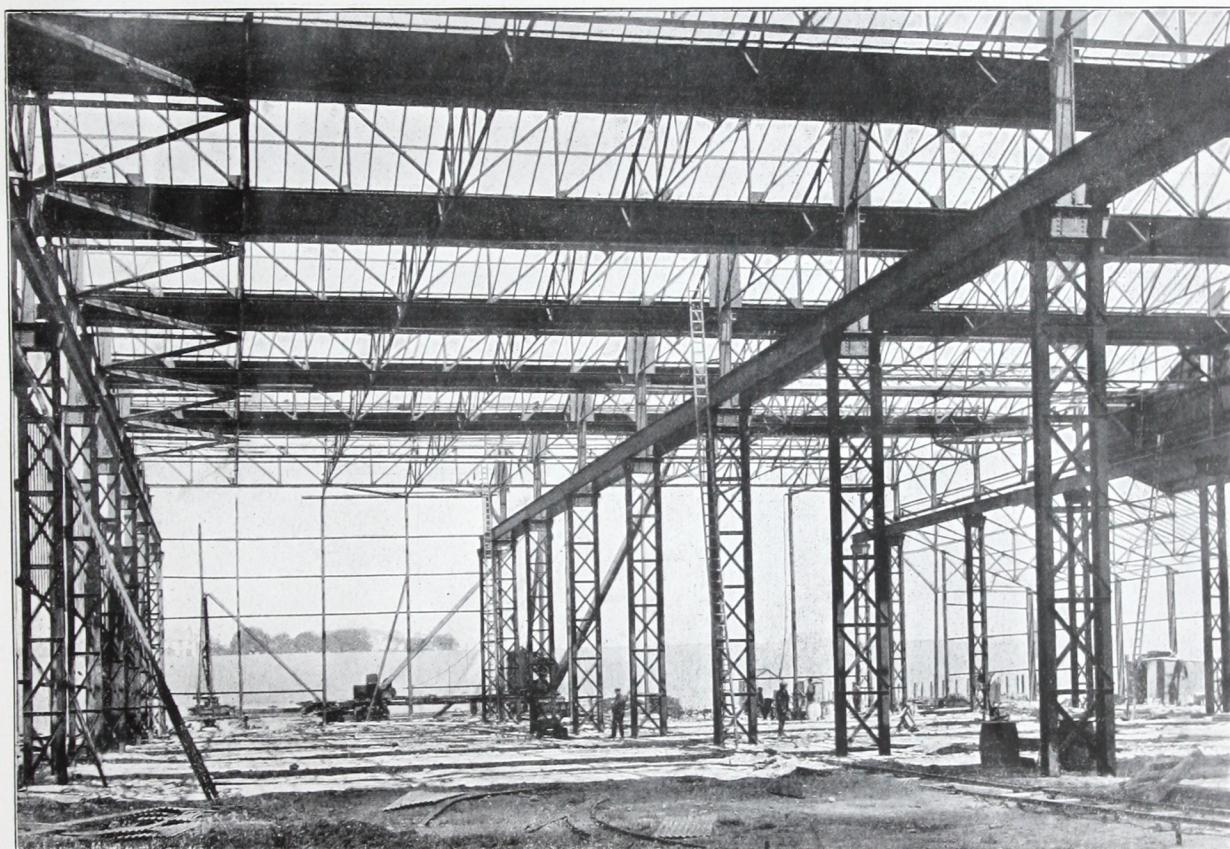
LARGE ENGINEERING SHOP IN COURSE OF ERECTION BY US.

BRABY : GLASGOW



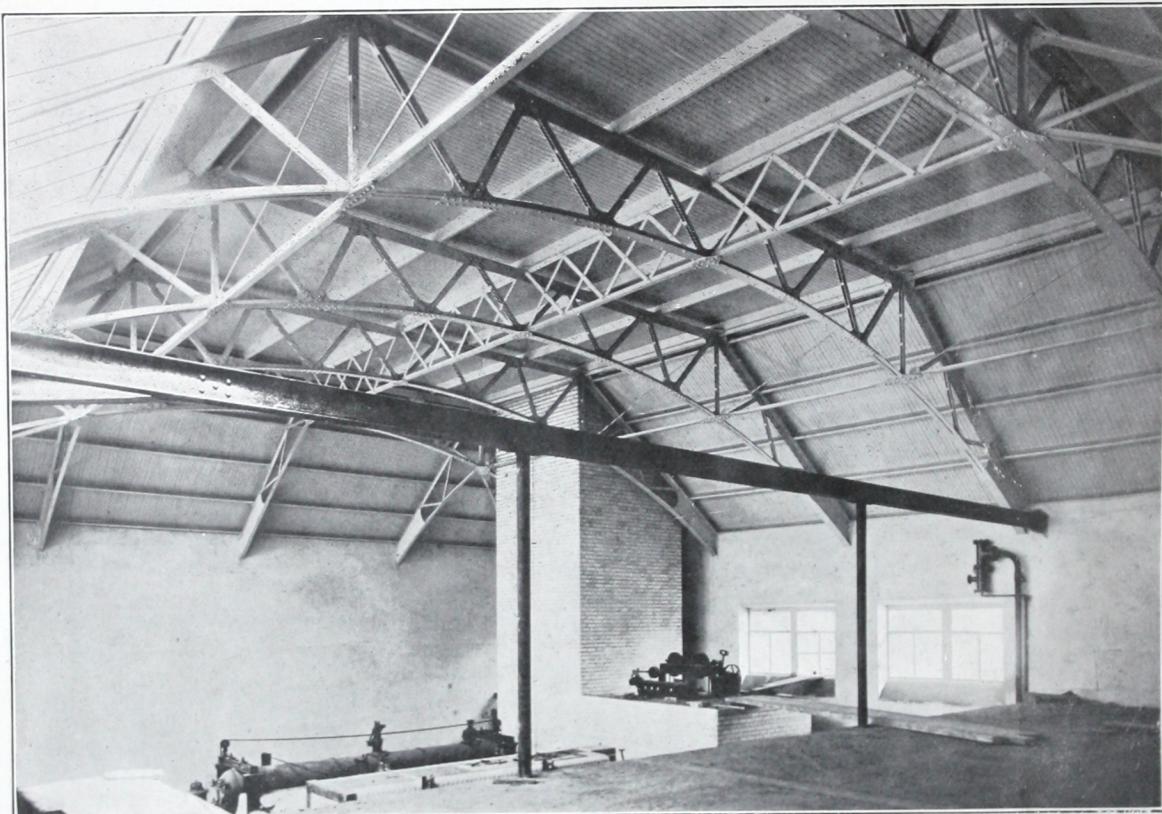
LARGE STEEL STORES BUILDING (WIDE SPAN), THE
FEATURE OF THIS BEING THAT IT HAD TO BE
ERECTED ON A TAPERED PIECE OF GROUND.

STRUCTURAL STEELWORK



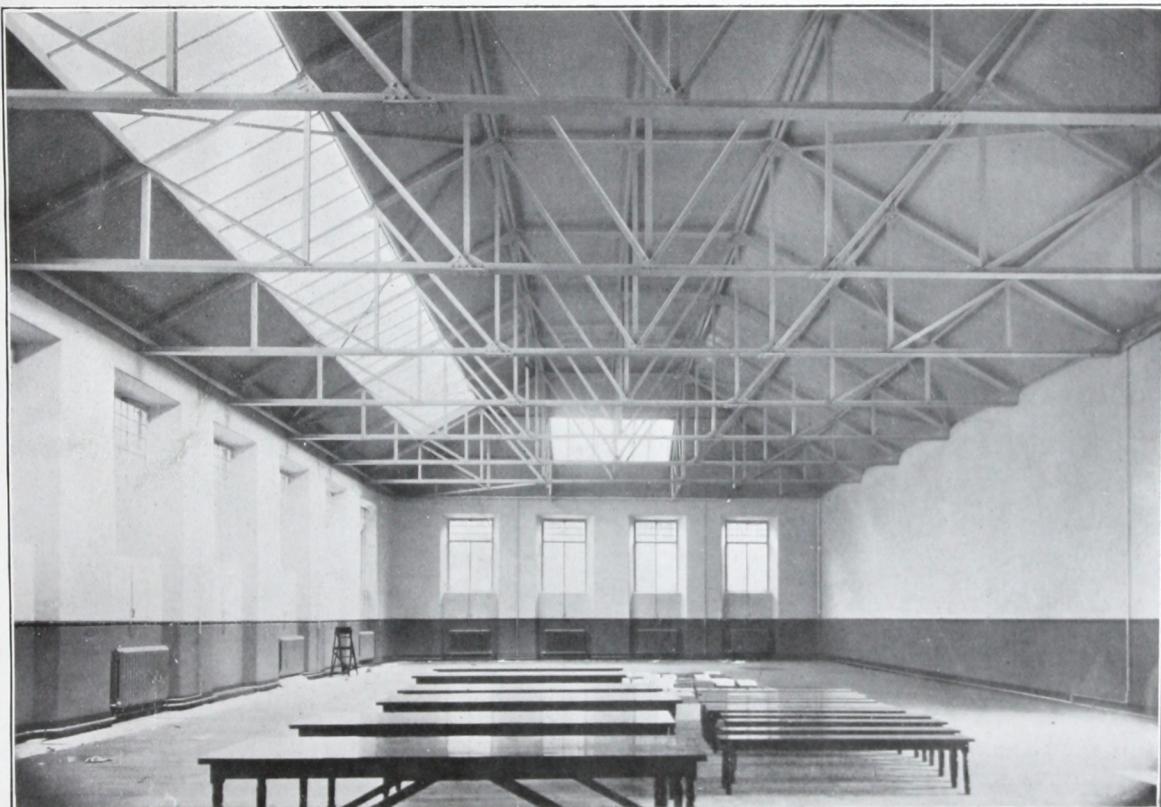
LARGE ENGINEERING WORKSHOP IN COURSE OF ERECTION.
DESIGNED AND COMPLETED BY US.

BRABY : GLASGOW



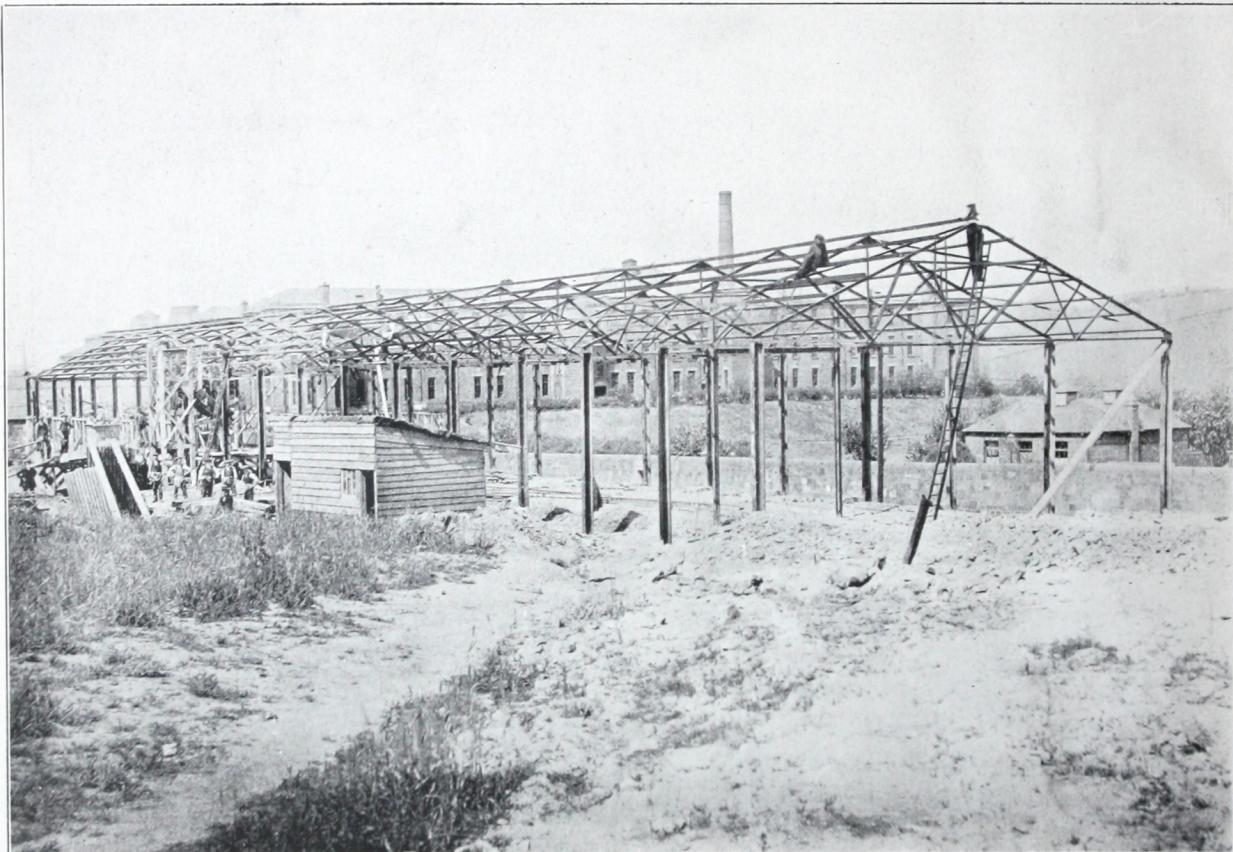
STEEL BOILER HOUSE. DESIGNED AND ERECTED BY US
(HIP ENDED).

STRUCTURAL STEELWORK



TECHNICAL COLLEGE. PART VIEW STUDENTS' ROOM.
STEEL ROOF ERECTED BY US.

BRABY : GLASGOW



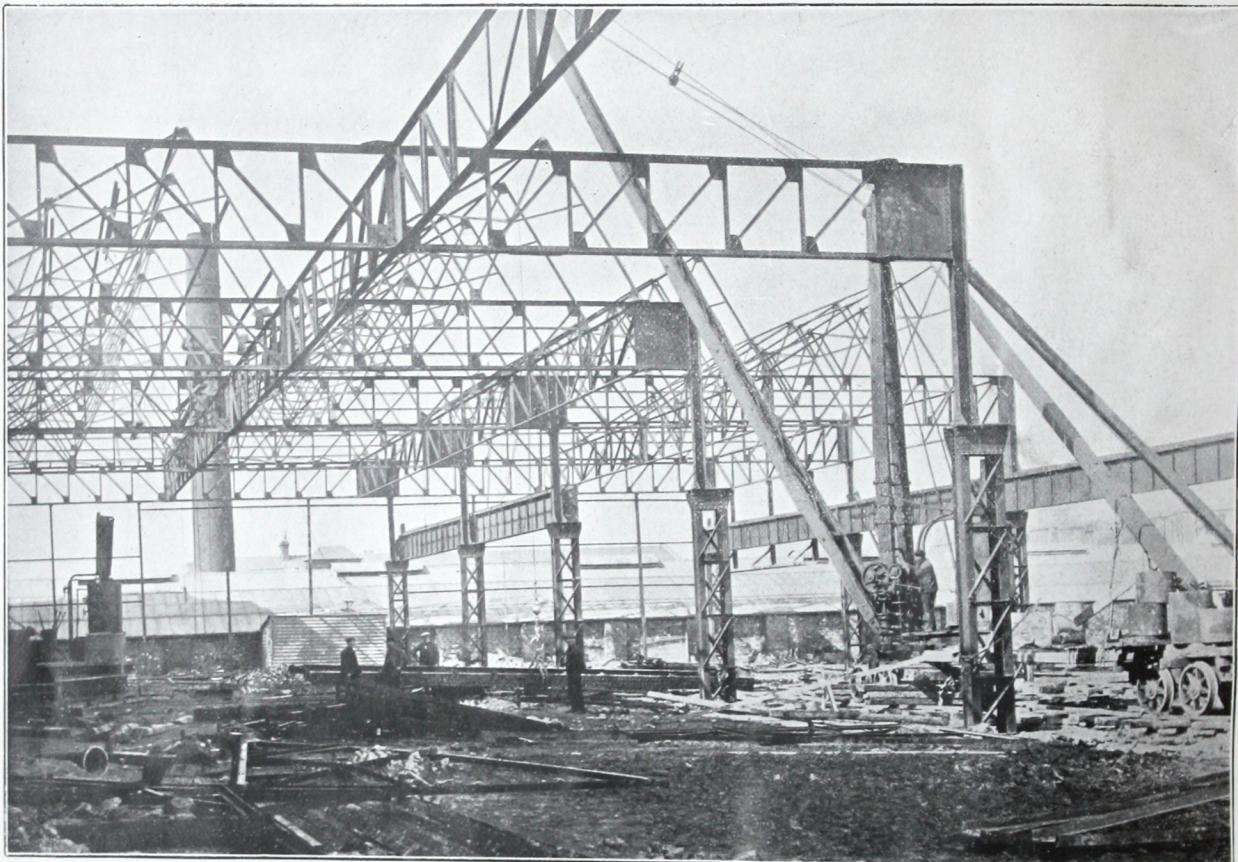
STEEL FRAME WORK FOR LARGE WAREHOUSE BUILDING,
HAVING FERRO-CONCRETE SIDE WALLS. DESIGNED AND
ERECTED BY US.

STRUCTURAL STEELWORK



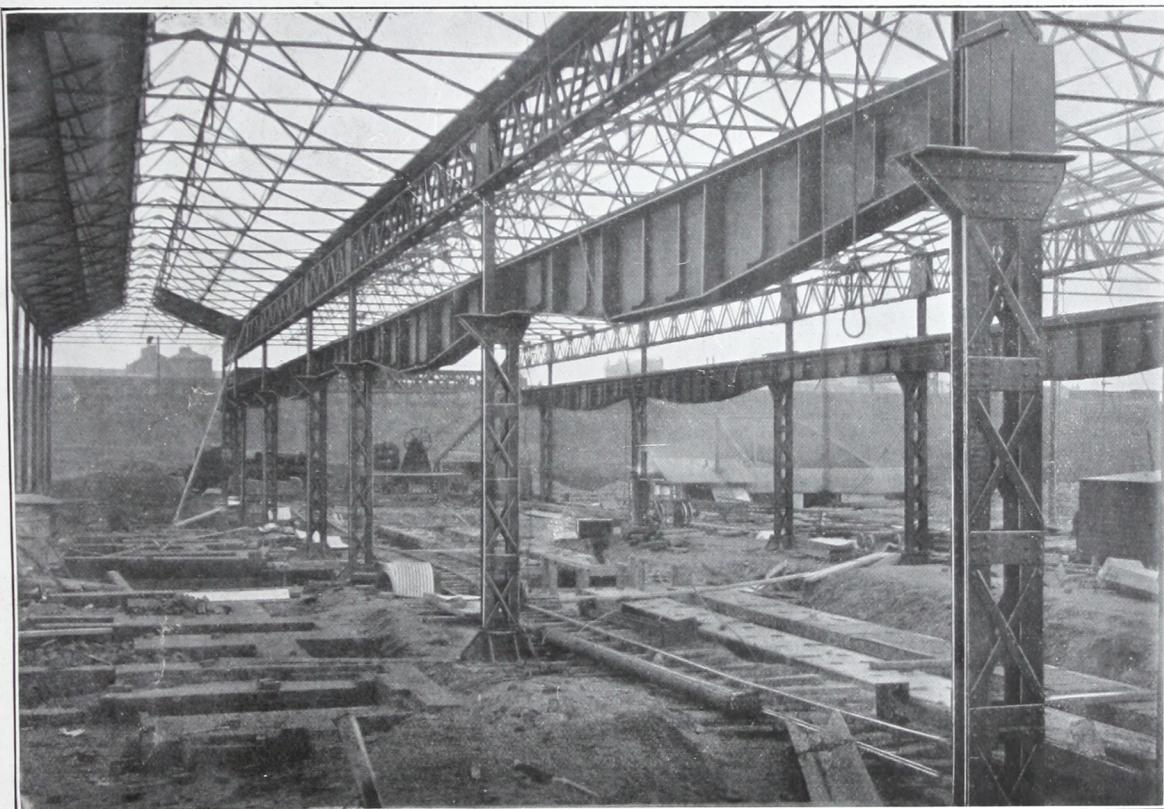
LARGE STEEL WORKS BUILDING—NORTHERN LIGHT ROOF—
PART VIEW, IN COURSE OF ERECTION. DESIGNED AND
COMPLETED BY US.

BRABY : GLASGOW



LARGE STEEL FRAMED BUILDING FOR PUBLIC WORKS IN
COURSE OF ERECTION. DESIGNED AND COMPLETED BY US.

STRUCTURAL STEELWORK



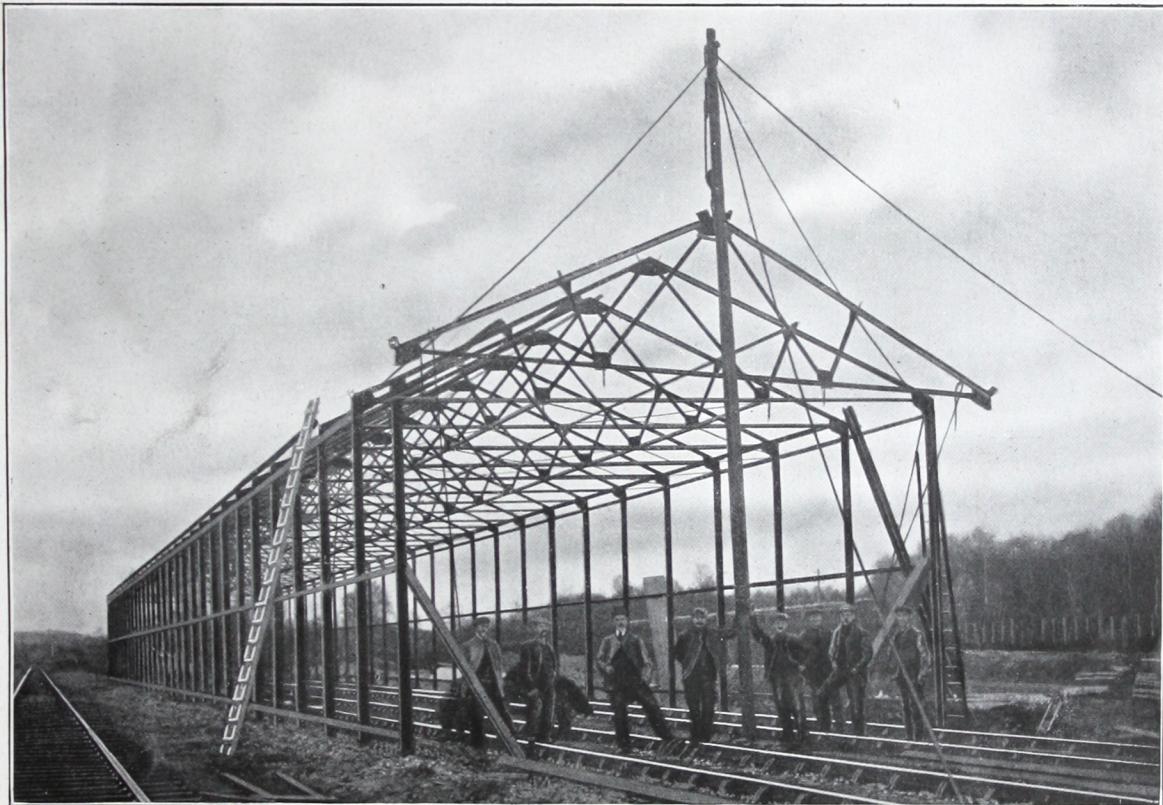
LARGE IRON WORKS BUILDING IN COURSE OF ERECTION BY US.
DESIGNED AND COMPLETED BY OURSELVES.

BRABY : GLASGOW



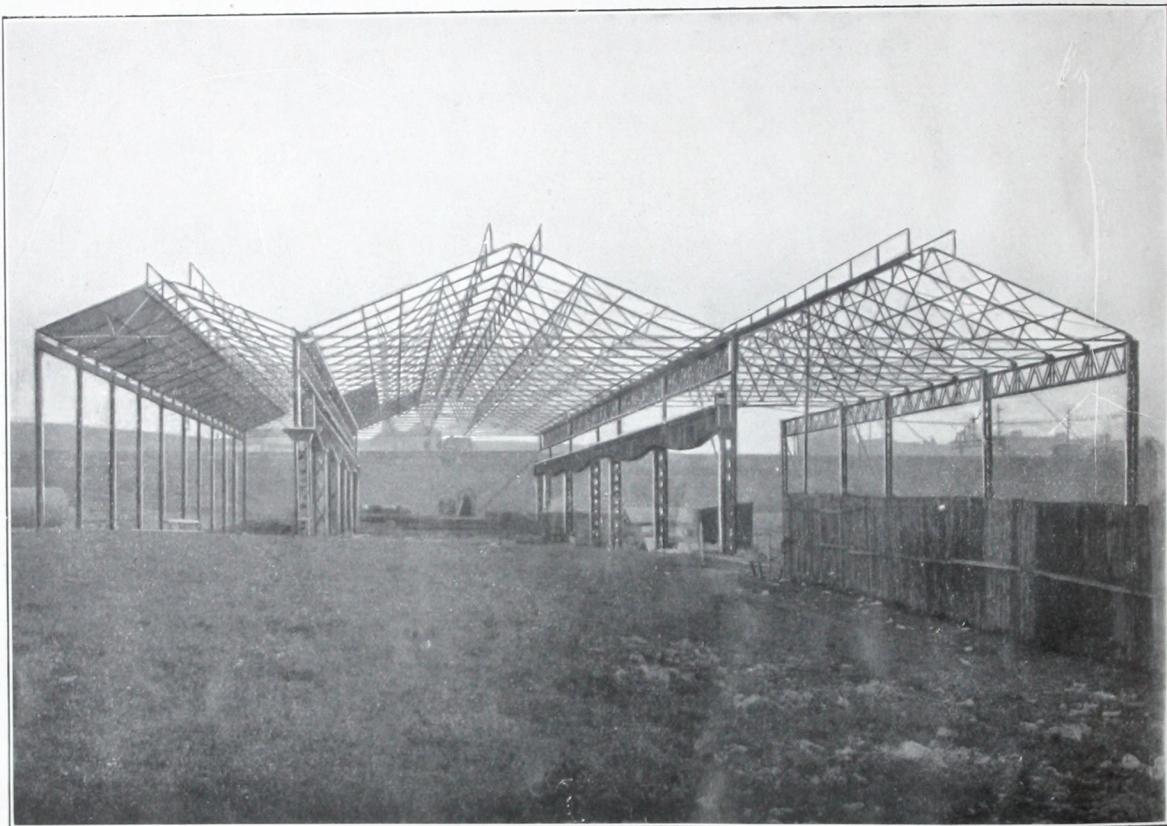
LARGE ROLLING MILL BUILDING IN COURSE OF ERECTION, WITH
HEAVY OVERHEAD CRANES. DESIGNED AND ERECTED BY US.

STRUCTURAL STEELWORK



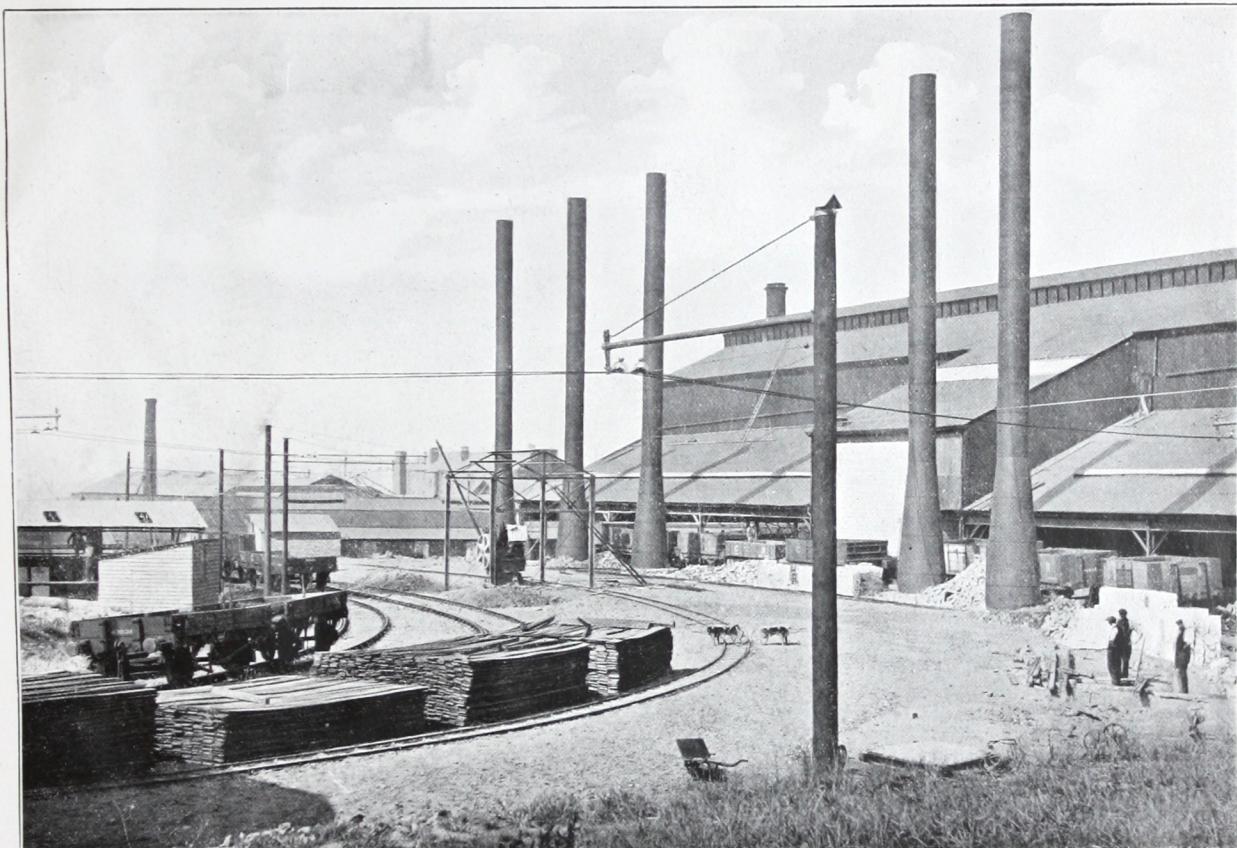
STEEL RAILWAY RUNNING SHED IN COURSE OF ERECTION BY US.

BRABY : GLASGOW



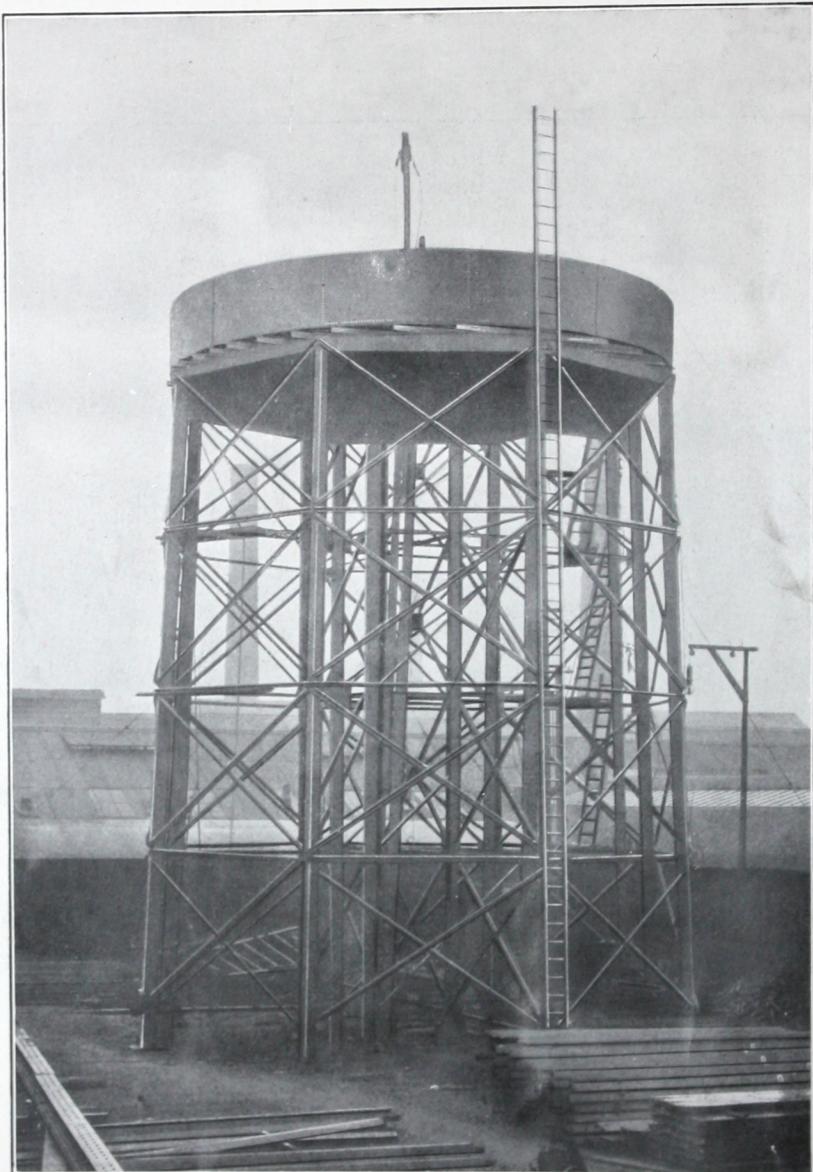
LARGE 3-SPAN ENGINEERING SHOP
DESIGNED AND ERECTED BY US.

STRUCTURAL STEELWORK



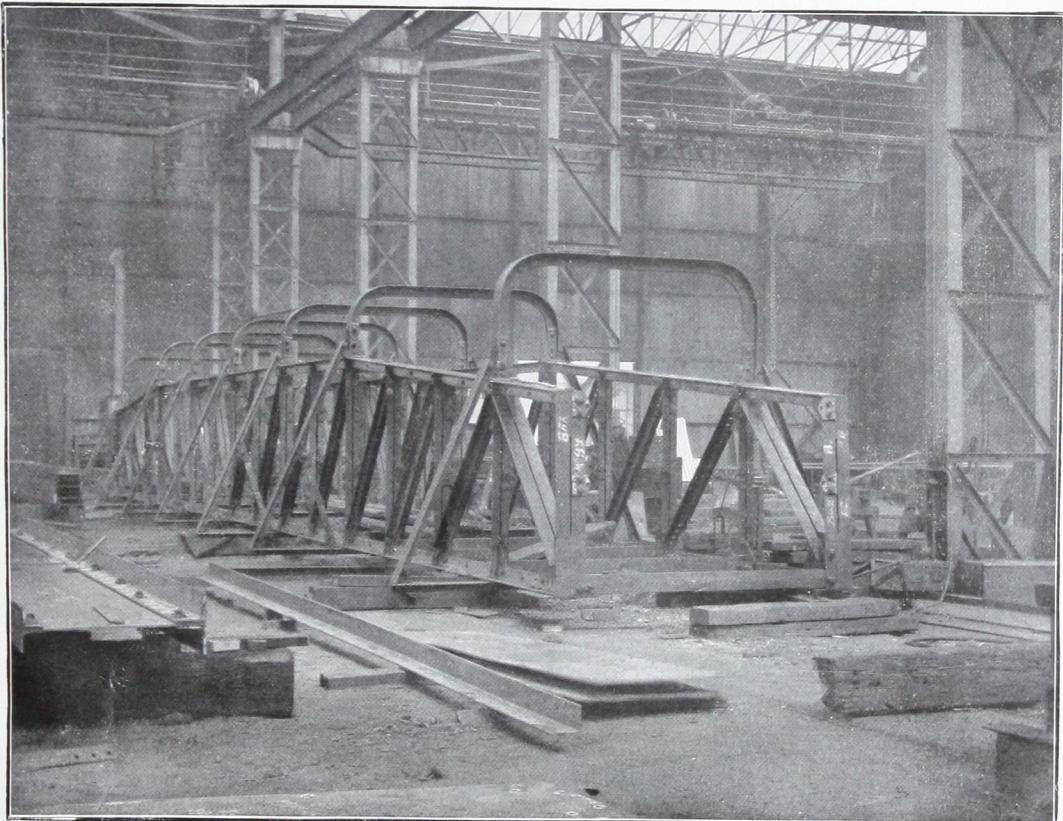
LARGE STEEL CHIMNEYS MANUFACTURED AND
ERECTED BY US FOR STEEL ROLLING MILLS.

BRABY : GLASGOW



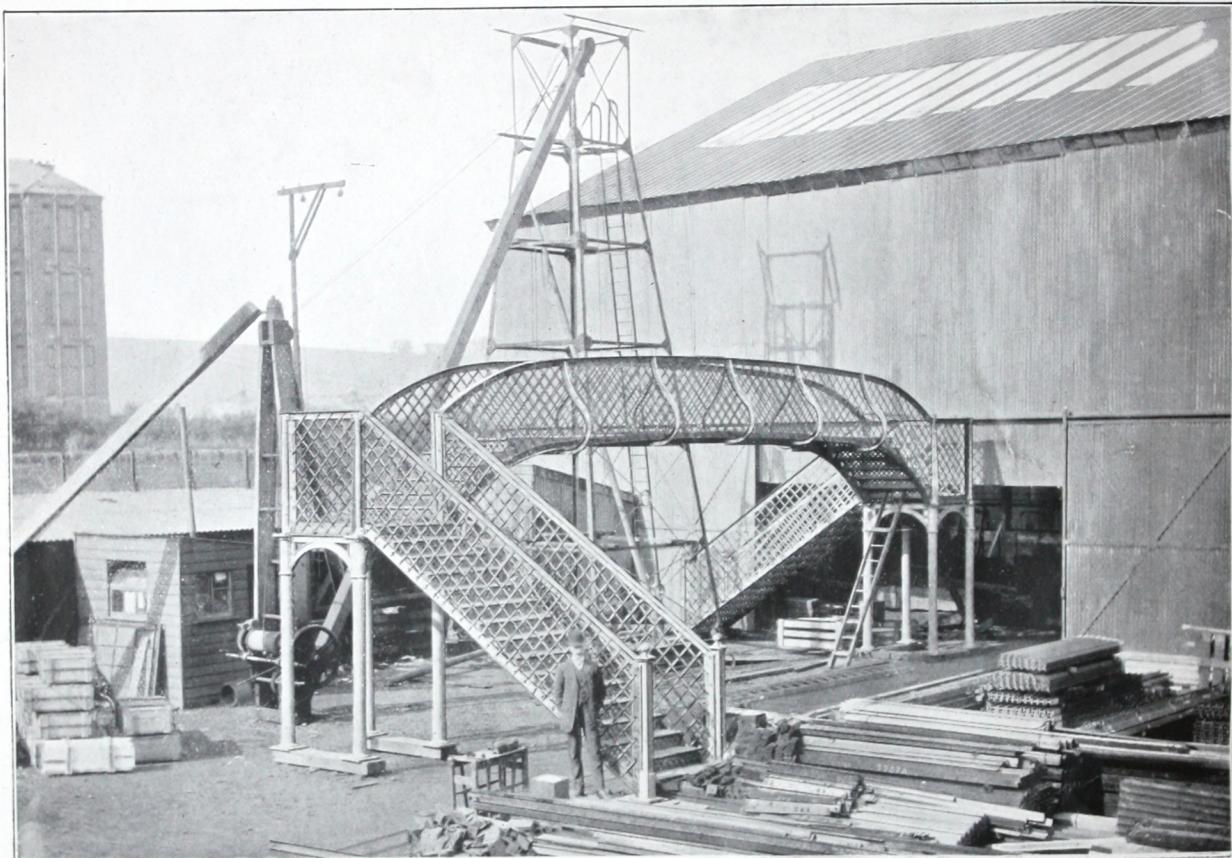
LARGE STEEL TANK AND TOWER. DESIGNED AND
MANUFACTURED BY US. ERECTED IN OUR YARD
FOR INSPECTION PREVIOUS TO SHIPMENT ABROAD.

STRUCTURAL STEELWORK



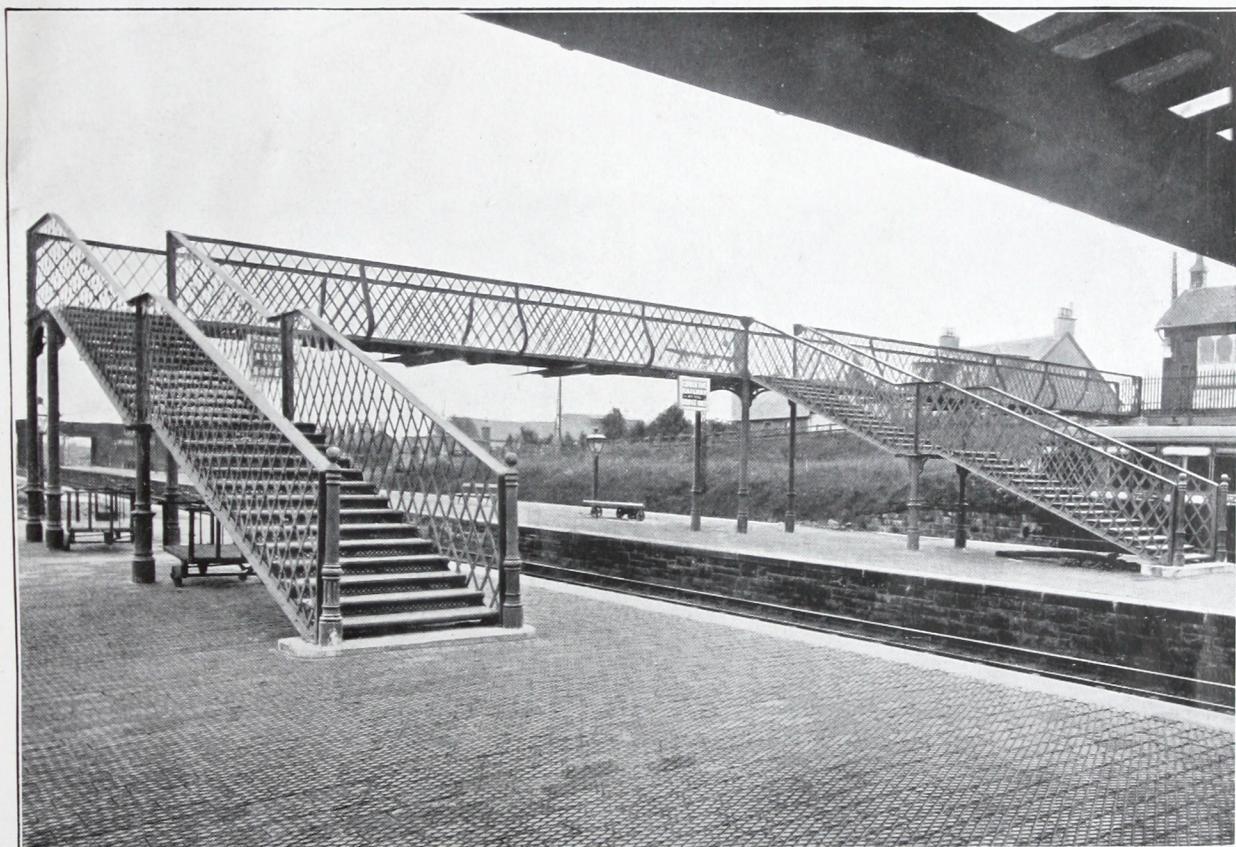
FOOT BRIDGE FOR PUBLIC WORKS USE, FITTED
TOGETHER IN OUR SHOP PRIOR TO DESPATCH.

BRABY : GLASGOW



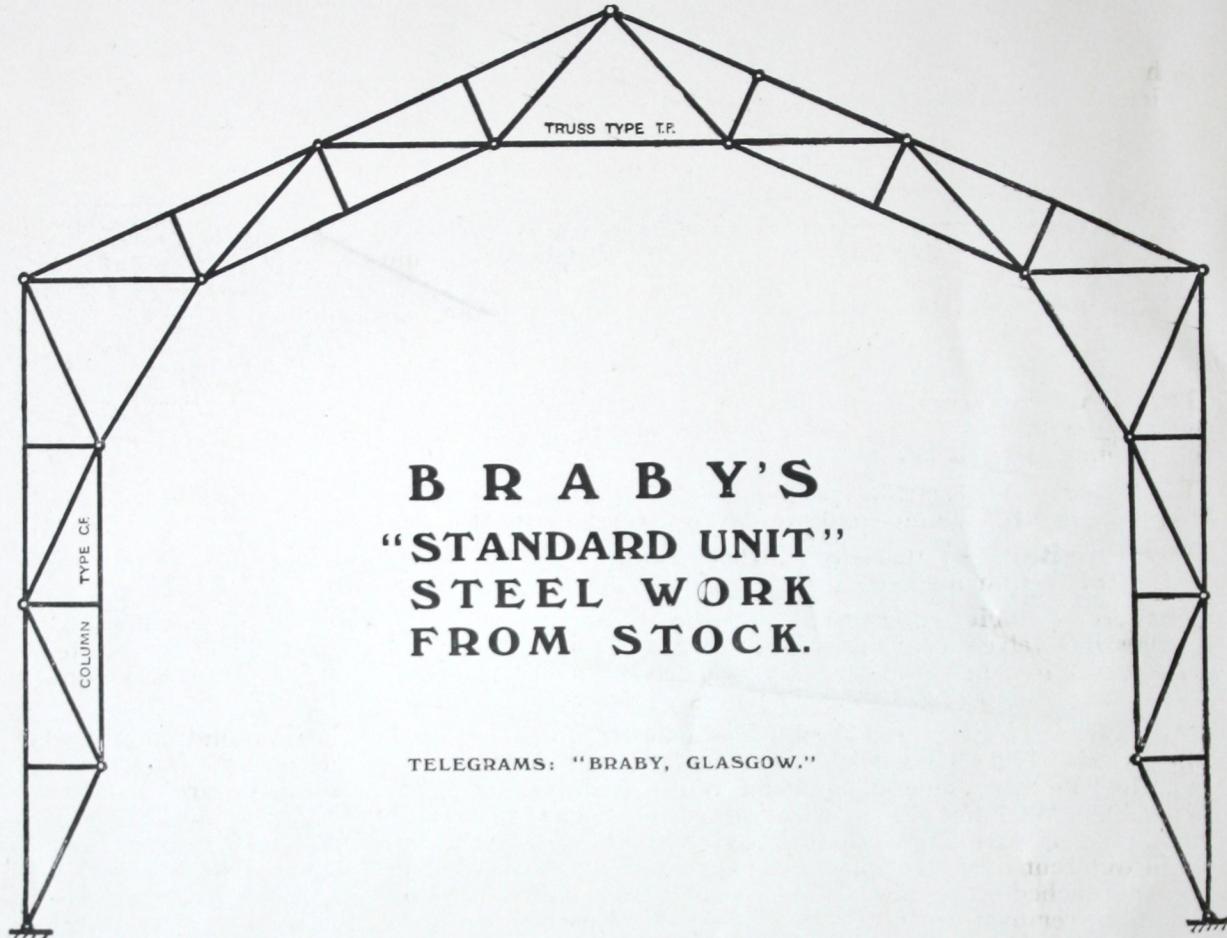
STEEL STATION FOOT BRIDGE, ERECTED IN OUR
WORKS FOR INSPECTION PREVIOUS TO DESPATCH.

STRUCTURAL STEELWORK



STEEL STATION FOOTBRIDGE MANUFACTURED
AND ERECTED BY US.

BRABY : GLASGOW



B R A B Y' S
"STANDARD UNIT"
STEEL WORK
FROM STOCK.

TELEGRAMS: "BRABY, GLASGOW."

STANDARD CONSTRUCTION
IMPLIFIES MANUFACTURE
PEEDS PRODUCTION -
AYES COST - - - -
UPPLIED FROM STOCK

STRUCTURAL STEELWORK

Braby's Steel "Standard-Unit" System.

What it is.—Structural Steelwork, ready-made in interchangeable standard parts, which are assembled in various ways to suit various requirements.

Its uses.—Roof frameworks, permanent or temporary. Wall frameworks; light bridges; tank supports; gantries; special staging; emergency or temporary steelwork of all kinds. But above all: Roof frameworks.

Advantages.—Summed up in a phrase: "Steelwork from stock." Immediate design and immediate supply; interchangeability, standardization and simplicity; adaptability to varying circumstances; readiness in all cases for immediate erection, extension, duplication or alteration; and for demolition and re-erection without loss.

THE PARTS.

The Unit.—A triangle in three-inch mild steel angles, having a base of 13 ft., two equal sides of 7 ft. 1½ ins., and a median of 2 ft. 11 ins.; the whole riveted up on three-eighth-inch gusset plates.

The Bar.—A three-inch angle bar with plates riveted at each end for pin-bolt connections; the whole made in several standard lengths.

The Pin-Bolt.—A specially toughened bolt, 1½ in. diameter, one of which is used for every connection made at site.

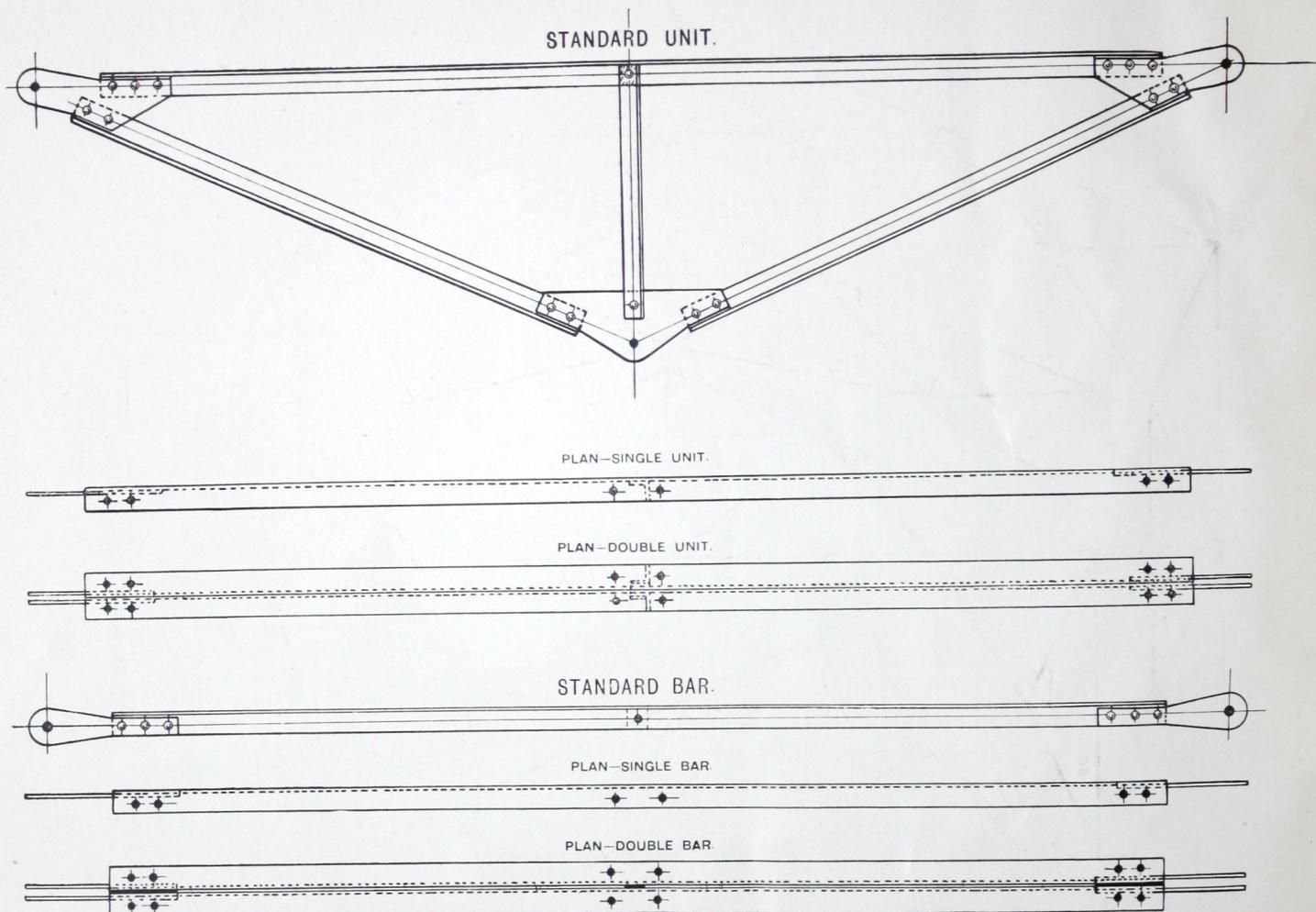
The Accessories.—Shoes for attachment to columns, walls, girders or foundations; purlins in twelve-foot lengths, and purlin cleats; stiffening plates; gusset plates; rafter extensions for providing overhanging eaves; ventilator frames adjustable to any roof-slope; and two sizes of bolts and nuts to cover all accessory attachments.

Method.—The units and bars are assembled in the required formation, and connected up by the interchangeable fastenings (pin-bolts). With one size of unit, and seven lengths of bars, several hundred different forms of steel framework are instantly available. We illustrate a selection of these diagrammatically, shewing how the unit may take up various positions relatively to the rest of the frame, and how one bar may fulfil different duties in different positions. It will also be seen that finality of design is never reached—it being always possible to modify a Standard-Unit structure by the addition, removal or substitution of standard parts.

Speedy and Simple Lay-out.—Any Standard-Unit framework may be accurately drawn in simple geometry. Using straight lines to represent the effective lengths of bars, and shewing all connections merely as points of intersection, a correctly proportioned scale-sketch is obtained, from which over-all and intermediate dimensions may be read off at once. Moreover, the properties of every component being known, the properties of every combination are readily calculated.

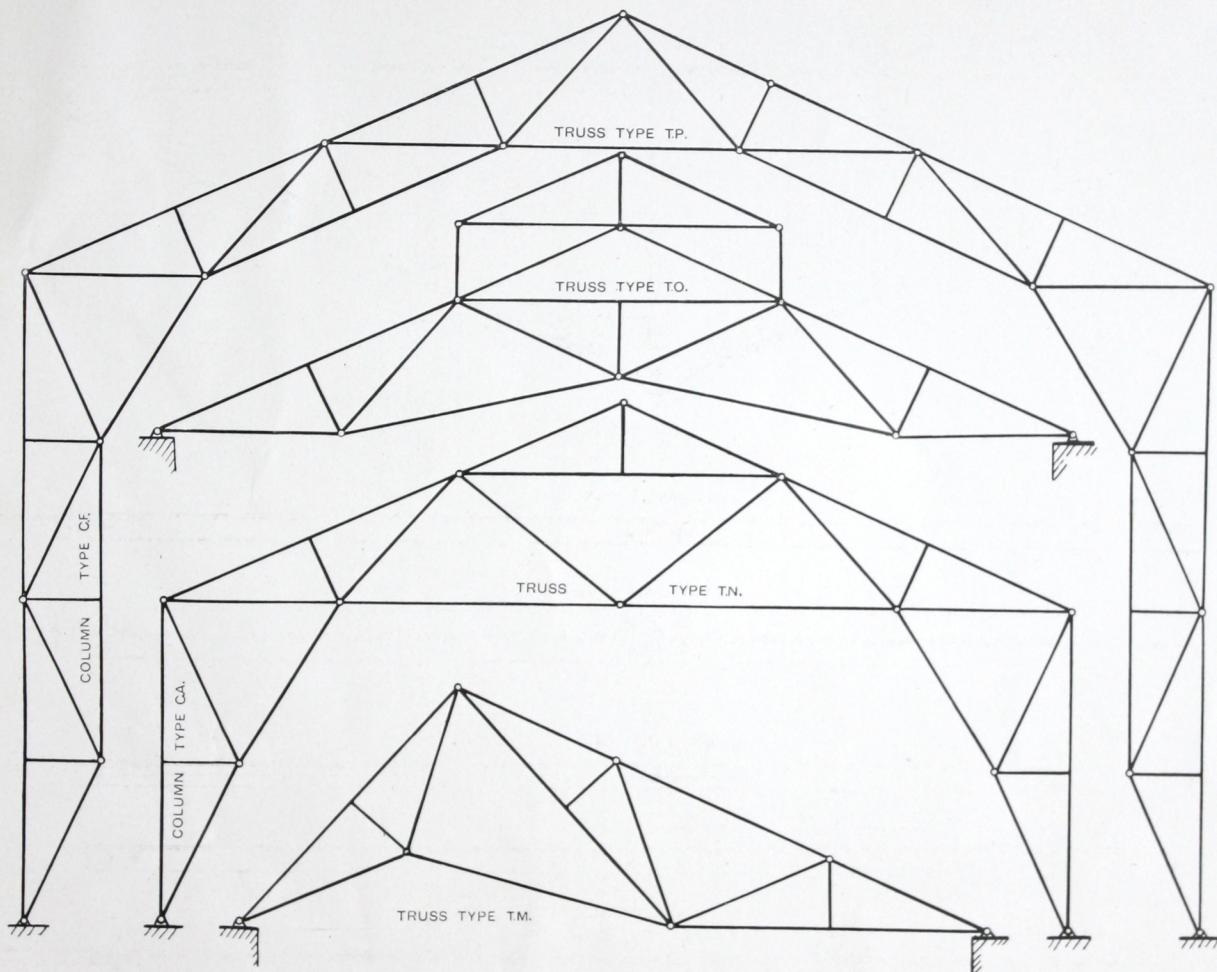
Reinforcing.—In some assemblies of units and bars, the stress diagram will point to undue loads on certain members, which therefore require strengthening. Again, if it is anticipated that some Standard-Unit structure as a whole may be subjected to abnormal stresses, all the compression members may require reinforcing. The additional strength is supplied by using double members instead of single ones; that is, the unit-sides or bars in single three-inch angles are replaced by pairs of three-inch angles riveted back-to-back, the bar-plates or gussets also being duplicated. The pin-bolt diameter remains the same, extra strength being given by the double, triple or quadruple shear exerted by the gauntletted plates through which it passes. The required extra strength is thus obtained with no departure from the principle of standardization, the advantages of which are fully retained.

BRABY : GLASGOW



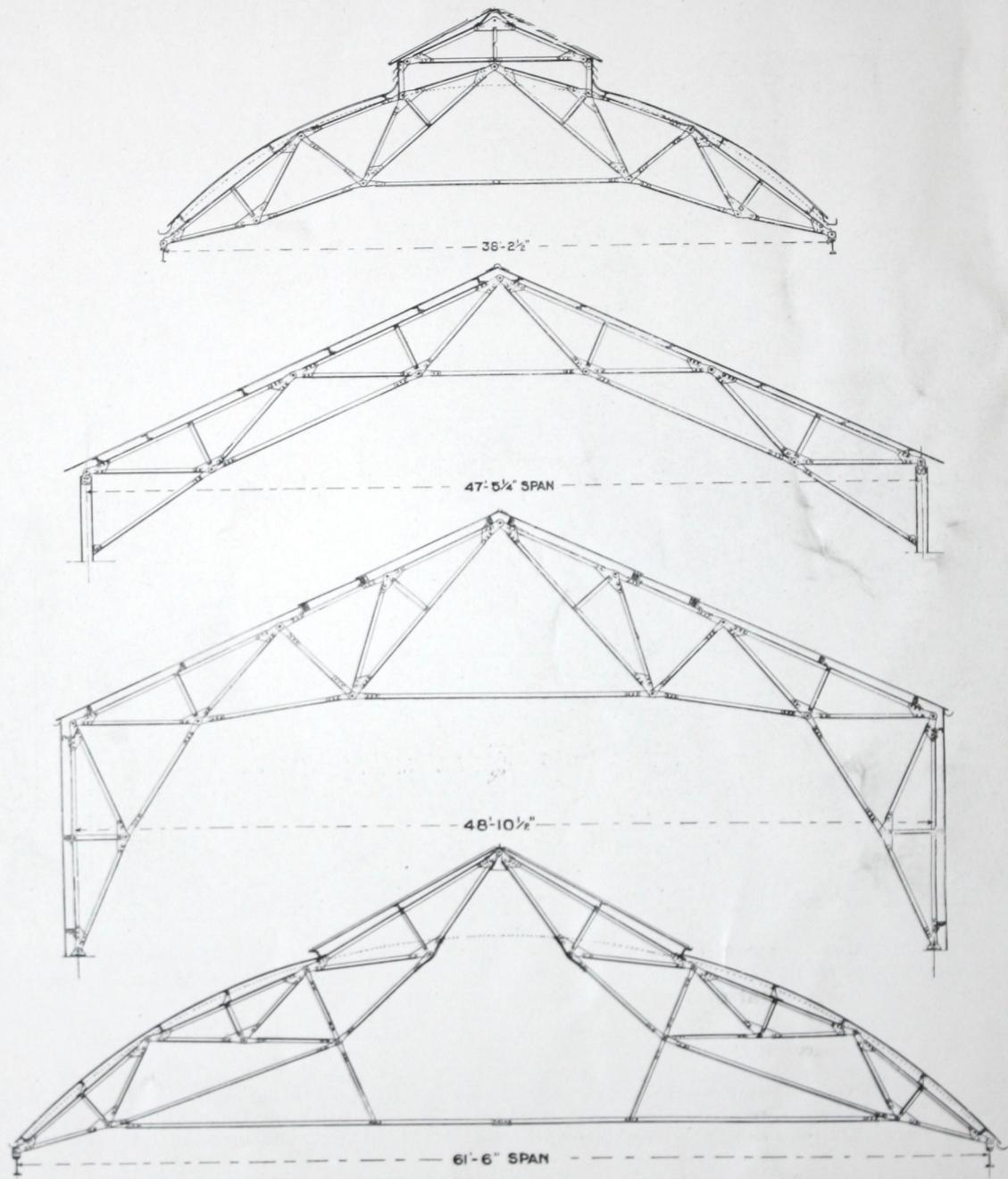
ELEMENTS OF OUR "STANDARD-UNIT" SYSTEM.

STRUCTURAL STEELWORK



OUR "STANDARD-UNIT" DESIGNS CAN BE APPLIED TO A VERY
LARGE VARIETY OF WIDTHS AND HEIGHTS OF STEEL
BUILDINGS. FURTHER PARTICULARS CAN BE HAD ON APPLICATION.

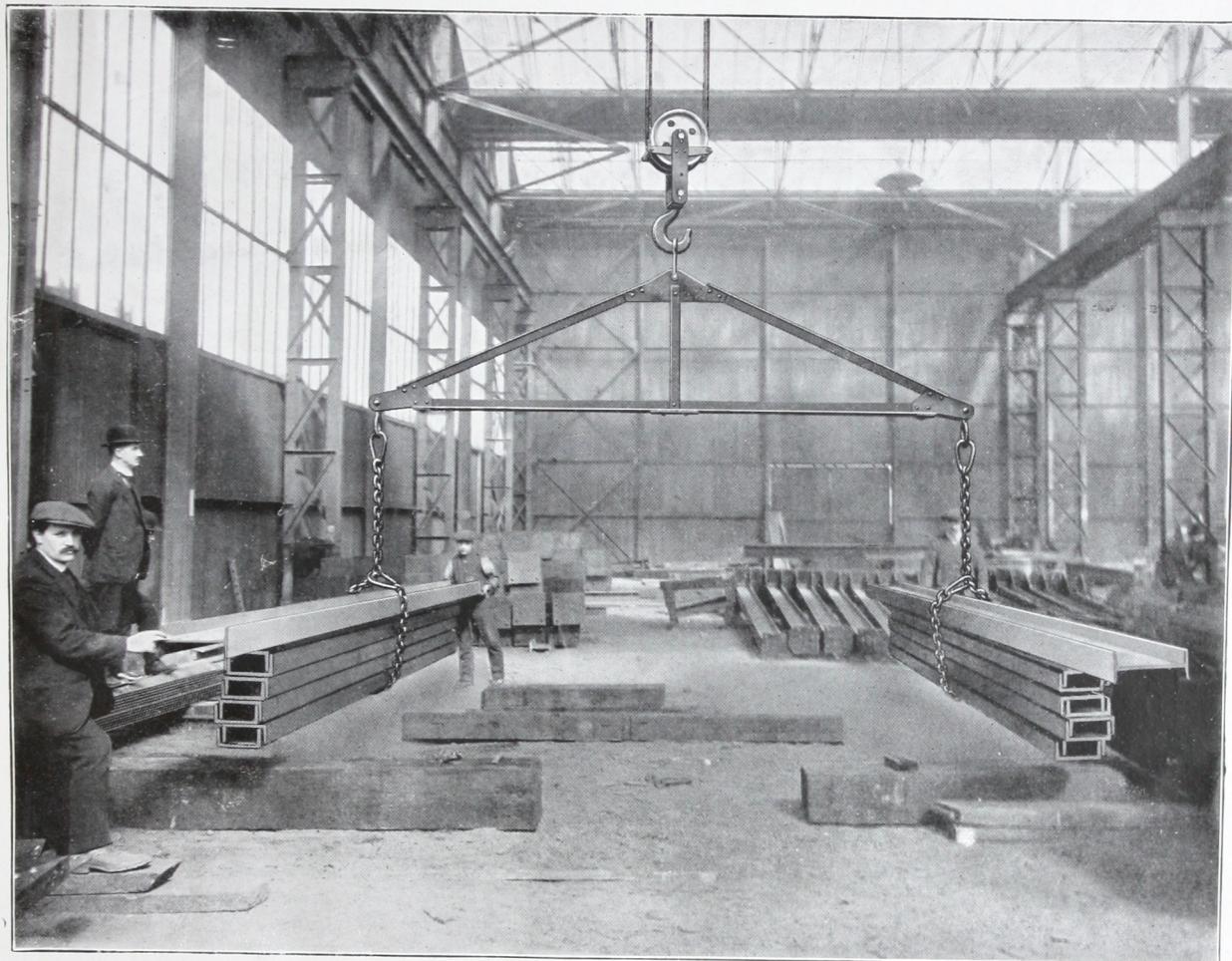
BRABY : GLASGOW



A FEW TYPES OF OUR STANDARD UNIT STEEL TRUSSES.

STRUCTURAL STEELWORK

STANDARD-UNIT STEEL CONSTRUCTION.



The illustration shows a Single 13 ft. Standard Unit of the lightest section, which under test carried safely a load of 2 tons $3\frac{1}{2}$ cwt. hung from each side, and in addition a central load of 14 cwt., making a total of 5 tons 1 cwt.

Various tests were made on riveted and bolted unit frames of single and double members. Each arrangement of loading was supported safely by the Standard Unit.

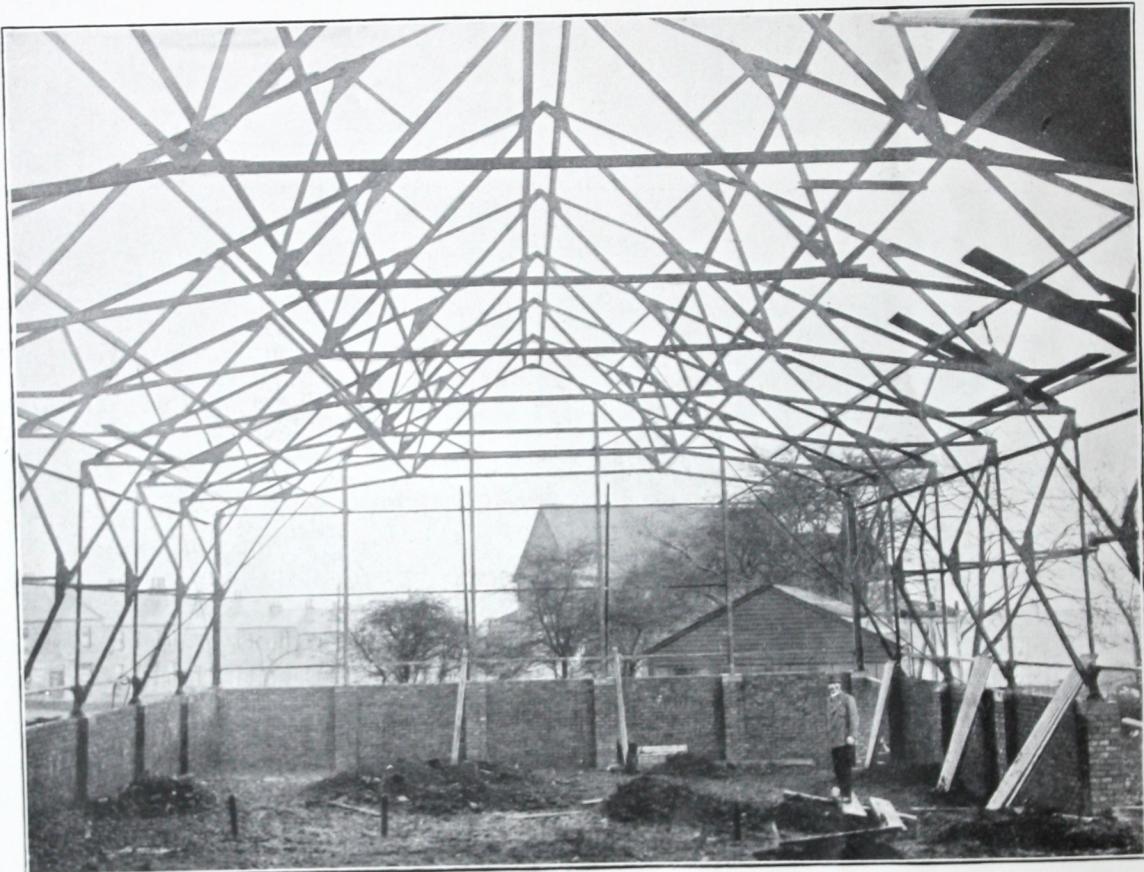
Loads of 1 ton each were hung from the pins on the base intersection of the single 13 ft. unit frame, the base member being unsupported externally between the pins.

The same loads were hung from cleats fixed to the end standard flange holes in the base member of the single 13 ft. Standard Unit, thus testing the effect of this eccentricity of loading.

Similar tests with the same loads were made on the single 10 ft. Standard Unit.

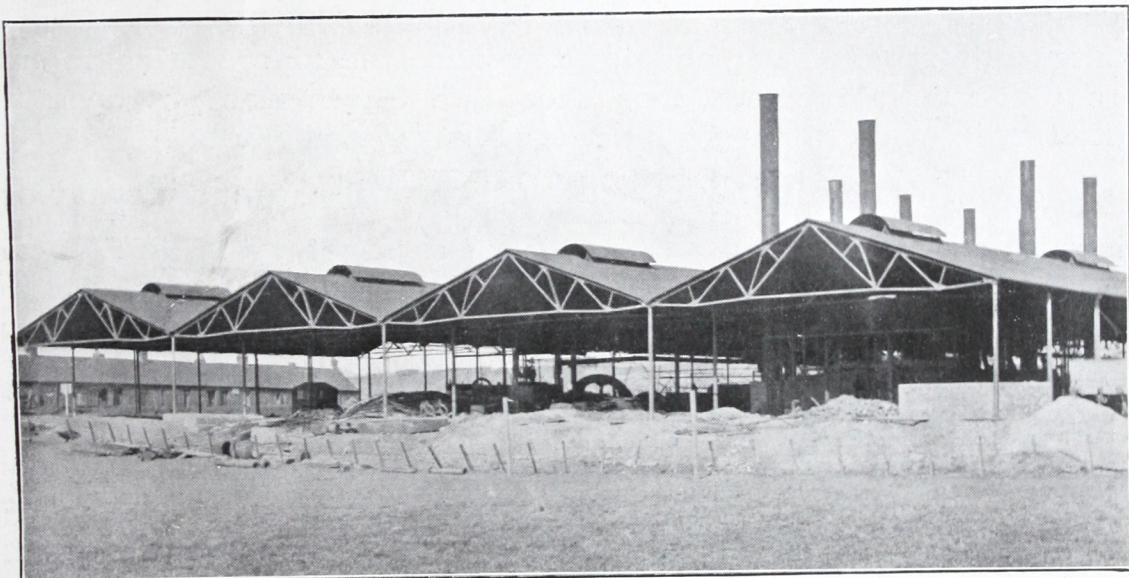
Loads of 5 ton each were hung on the similar pins of a double 13 ft. unit, this total load being the safe lift of supporting crane.

BRABY : GLASGOW



PATTERN STORE BUILDING, ON THE STANDARD UNIT
PRINCIPLE, COMPLETE WITH STEEL UNIT SIDE
COLUMNS, IN COURSE OF ERECTION BY US.

STRUCTURAL STEELWORK



THIS IS AN EXAMPLE OF OUR STANDARD UNIT TRUSSES,
SUPPORTED ON IRON COLUMNS FOR A LARGE IRON
WORKS BUILDING. DESIGNED AND ERECTED BY US.

BRABY : GLASGOW

THE GALVANIZED STEEL SHEET PROBLEM.

There is a general complaint that modern Galvanized Sheets have a very short life in comparison with sheets produced in former years. The reason is not far to seek. Many buyers have been tempted to put price first and quality last. The persistent demand for Cheap Sheets resulted in methods being adopted to reduce the zinc coating to such an extent that a low grade or short life Sheet was put upon the market, in other words, an imperfectly Galvanized Sheet.

A Sheet which is too thinly coated with zinc will corrode very rapidly. It is false economy to reduce the life of a Sheet by 10 to 20 years for the sake of saving, say, 10 per cent. in the price.

The leading Consulting Engineers, Architects and Merchants regularly specify Braby's High-Grade Galvanized Corrugated Sheets because of their reliability.

Braby's "Sun" Brand – Very Best Double-Coated.



Braby's "Empress" Brand – Extra Coated.



Braby's "Eclipse" Brand – Extra Coated.



Braby's "Castle" Brand – Specially Selected Sheets.



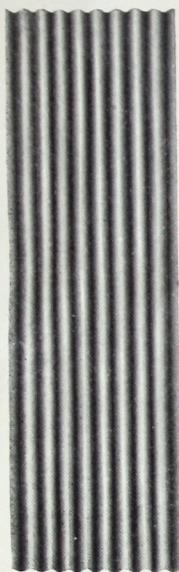
The life of a Galvanized Sheet is the thickness of the zinc coating or galvanizing, and hence the BEST is CHEAPEST.

Supplied in all Sizes and Gauges—Corrugated or Flat—Straight or Curved.

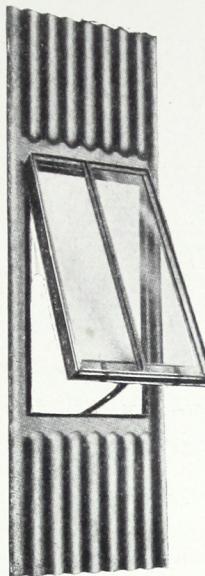
We have the Largest Variety of High-Grade Steel Sheets in the Kingdom.

Note.—"EMPERESS" AND "ECLIPSE" BRANDS ARE EQUAL TO GOVERNMENT ENGINEERS' SPECIFICATION.

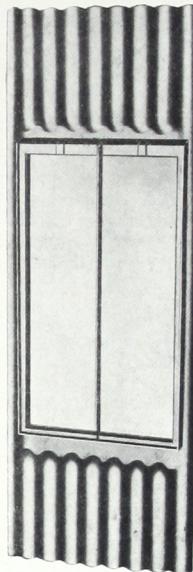
STRUCTURAL STEELWORK



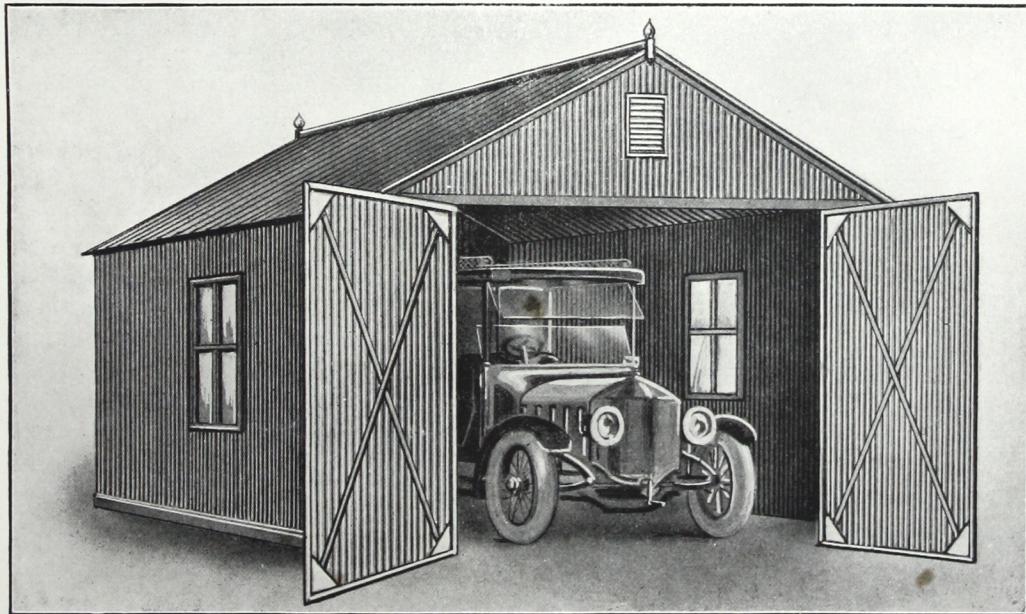
CORRUGATED SHEET.



"ECLIPSE" ROOFLIGHT
(Opening).



"ECLIPSE" ROOFLIGHT
(Fixed).



MOTOR GARAGE ERECTED BY US.

WE CARRY LARGE STOCKS OF CONSTRUCTIONAL MATERIALS AND CORRUGATED SHEETS, AND CAN EXECUTE ORDERS VERY PROMPTLY. MOTOR GARAGES, STORES AND BUILDINGS OF EVERY DESCRIPTION DESIGNED, MANUFACTURED AND ERECTED BY US AT HOME AND ABROAD.

FREDK. BRABY & Co. LTD.

Structural Engineers and Contractors,

Eclipse Iron and Steel Works

PETERSHILL ROAD, GLASGOW.

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